

In re Application of:

Lang et al.

Application No.: 10/765,097

Filed: January 28, 2004

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PATENT

Attorney Docket No.: BECK1170-1

Amendments to the Claims:

Please amend claims 14, 16-20, and 24, add new claims 27-35, and cancel claim 15, as provided below.

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of the Claims:

Claims 1-13. (Canceled)

14. (Currently amended) [Multimers built up from] A multimer of recombinant protein[[s]] analogues of class I MHC, characterized in that the proteins comprise at least one modification in the α3 domain of the zone of interaction of a heavy chain with the CD8 co-receptor of T lymphocytes leading to a reduction[, or even suppression] of the affinity of the interaction between the heavy chain and CD8.

15. (Canceled)

16. (Currently amended) [Multimers] A multimer according to claim 14, characterized in that the modification corresponds to a mutation in the α3 domain of at least one amino acid, with respect to the corresponding domain of a native heavy chain capable of binding to the said CD8 co-receptor.

17. (Withdrawn) Multimers according to claim 14, characterized in that the modification corresponds to chemical modification of at least one amino acid of the α3 domain of a heavy chain, with respect to the corresponding domain of a native heavy chain capable of binding to the said CD8 co-receptor.

18. (Withdrawn) Multimers according to claim 14, characterized in that the modification corresponds to the deletion of at least one amino acid of the α3 domain of a heavy chain, with respect to the corresponding domain of a native heavy chain capable of binding to the said CD8 co-receptor.

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19. (Currently amended) [Multimers] A multimer according to claim 14, characterized in that [~~they are in the form of complexes~~] the multimer is charged with antigenic peptides.

20. (Currently amended) [Multimers] A multimer according to claim 19, characterized in that [~~they are~~] the multimer is in the form of tetramers.

21. (Withdrawn) Use of multimers according to claim 19 for the purpose of detection and/or isolation of peptide-specific CD8+ T lymphocyte populations.

22. (Withdrawn) Use according to claim 21 in a process for cell screening, such as immunomagnetic screening.

23. (Withdrawn) Method for the detection of peptide-specific CD8+ T lymphocyte populations from a polyclonal population, characterized in that it comprises:

- bringing the polyclonal population into contact with multimers complexed with antigenic peptides according to claim 19 under conditions which allow interaction between the modified class I MHC/peptide complexes and T lymphocyte receptors which have an affinity for the said complexes,
- visualization of the lymphocyte populations which are bound to the said complexes.

24. (Withdrawn) Method for isolation of peptide-specific CD8+ T lymphocyte populations from a polyclonal population, characterized in that it comprises:

- bringing the polyclonal population into contact with magnetic beads on which are bound the peptide/class I CMH analogue complexes according to claim 19 under conditions which allow interaction between the said complexes and T lymphocyte receptors which have an affinity for the said complexes,
- recovery of the bound populations, the screening operation being repeated, if desired, and/or followed, where appropriate, by a stage
- of *in vitro* amplification of the populations selected.

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25. (Withdrawn) Lymphocyte populations which have been selected and, where appropriate, amplified, characterized in that they are made up exclusively of T lymphocytes which are reactive towards the peptide of a complex with multimers according to claim 19.

26. (Withdrawn) Pharmaceutical compositions which can be used, in particular, in immunotherapy, characterized in that they are built up from a lymphocyte population according to claim 25 in combination with a pharmaceutically inert vehicle.

27. (New) A multimer according to claim 14 further comprising a fluorescent compound.

28. (New) A multimer according to claim 14 further comprising a biotin molecule.

29. (New) A multimer according to claim 28, wherein the biotin molecule is bound to a streptavidin-coupled bead.

30. (New) A multimer according to claim 16, wherein the mutation in the $\alpha 3$ domain is at a position corresponding to the alanine residue at position 245 of the $\alpha 3$ domain of the HLA-A2 molecule.

31. (New) A multimer according to claim 30, wherein the alanine residue is mutated to a valine residue.

32. (New) A multimer according to claim 19, wherein the antigenic peptide originates from a protein from Epstein-Barr virus.

33. (New) A multimer according to claim 32, wherein the antigenic peptide originates from the BMLF1 protein of the Epstein-Barr virus.

34. (New) A multimer according to claim 19, wherein the antigenic peptide originates from a protein from cytomegalovirus.

35. (New) A multimer according to claim 34, wherein the antigenic peptide originates from the pp65 protein of cytomegalovirus.